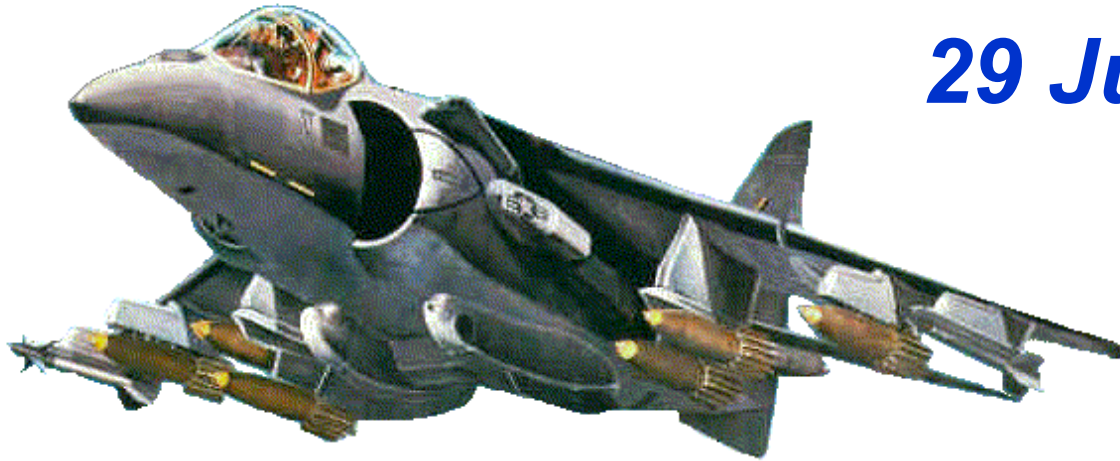


AV-8B HARRIER II PLUS

Assault Pre-ATRB 03-02
29 July 2003



Major Mike Roberts

AV-8B APMSE

PMA-257

301-757-5432



AIR-4.1.1.2
AV-8B HARRIER APMSE

AV-8B Program/System Description



Mission: *Close air support and escort assault aircraft operating from austere bases in battle field area. Attack and destroy targets during day, night, and low visibility flying conditions.*

Characteristics/Description:

- Close air support radius 225 NM
- Interdiction radius 330 NM
- Empty weight 14,912 lbs

Special Features:

- Collaborative program (Italy, Spain, and United States)
- Vertical/Short Takeoff & Landing (V/STOL)
- Adverse weather capable
- Austere environment operation
- Affordable

**Joint Collaborative Program
with the Governments of Italy and Spain**

Capability/Improvements:

- Open System Core Avionics Requirement (OSCAR)
- Litening II Targeting Pod
- F402-RR-408 Engine
- APG-65 Radar
- Safety ECPs
 - Nose Wheel Steering, Inlet Guide Vane Controller, Power Level Angle Unit (PLAU), Escape System Performance Upgrade

Contractors:

- Boeing - prime (airframe)
 - BAE Systems (formerly British Aerospace)
 - Aerea
- Rolls-Royce - prime (engine)
- Raytheon - APG-65 radar
- BAE Systems - AAR-51 FLIR (formerly Marconi GEC)
- Northrop Grumman - Litening



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AV-8B HARRIER APMSE

Military Requirement

ORD 224-05-89



- **Provide Attack Aircraft Support to Forward Operating Marine Expeditionary Units to Attack and Destroy Surface and Air Targets, to Escort Helicopters, and to Conduct Such Other Air Operations As May Be Directed**
 - Maintain the Capability to Operate During Darkness and Under Instrument Flight Conditions
 - Maintain the Capability of Deploying and Operating from:
 - » Suitable Seagoing Platforms
 - » Advanced Bases
 - » Expeditionary Air Fields
 - » Remote Tactical Landing Sites



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AV-8B HARRIER APMSE

Fleet Configurations



- **Harrier II Plus**

- APG-65 Multimode Radar
- Night Attack
- Provisions for Beyond Visual Range Weapons



- **Night Attack**

- NAVFLIR/Night Vision Goggles
- Digital Moving Map
- Triples the Number of Expendables



- **Day Attack / Trainer**

- Twice Payload/Radius AV-8A
- Digital Avionics/Integrated Cockpit



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AV-8B HARRIER APMSE

AV-8B Inventory Status



China Lake, CA

VX-31

2 AV-8B NA
2 AV-8B Radar
1 TAV-8B

VX-9

2 AV-8B NA
2 AV-8B Radar

9 Total

MCAS Yuma, AZ

MAG-13

VMA-211

7 AV-8B NA
18 AV-8B Radar

VMA-214

10 AV-8B Radar

VMA-311

5 AV-8B NA
13 AV-8B Radar

VMA-513

9 AV-8B NA
4 AV-8B Radar

66 Total

Davis Monthan AF

AMARC

5 AV-8B

5 Total

Brindisi, Italy

Gruppaer, Italy

15 AV-8B Radar
2 TAV-8B

17 Total

Boeing, MO

Boeing

1 FSD
2 Reman Pipeline

3 Total

MCAS Cherry Point, NC

MAG-14

VMA-223

4 AV-8B NA
12 AV-8B Radar

VMA-231

19 AV-8B Radar

VMA-542

4 AV-8B NA
12 AV-8B Radar

51 Total

FREST Squadron

VMAT-203

8 AV-8B
8 AV-8B NA
2 AV-8B Radar
13 TAV-8B

31 Total

FS Custody

FS

12 AV-8B
3 TAV-8B

15 Total

Rota, Spain

9th Squadron

8 AV-8B Radar
4 EAV-8B
1 NTAV-8B
4 Reman Pipeline

17 Total

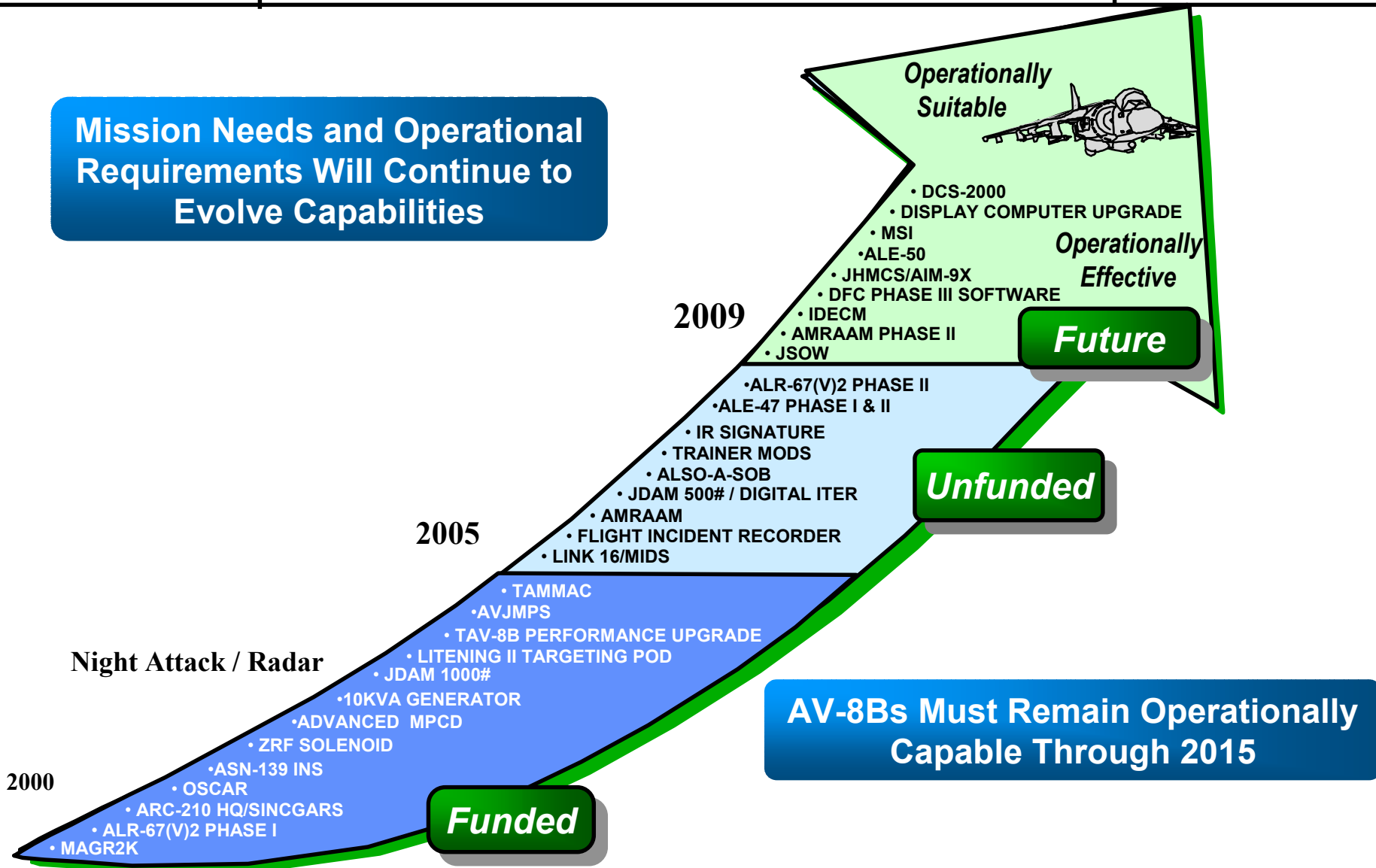


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AV-8B HARRIER APMSE

OPERATIONAL REQUIREMENTS



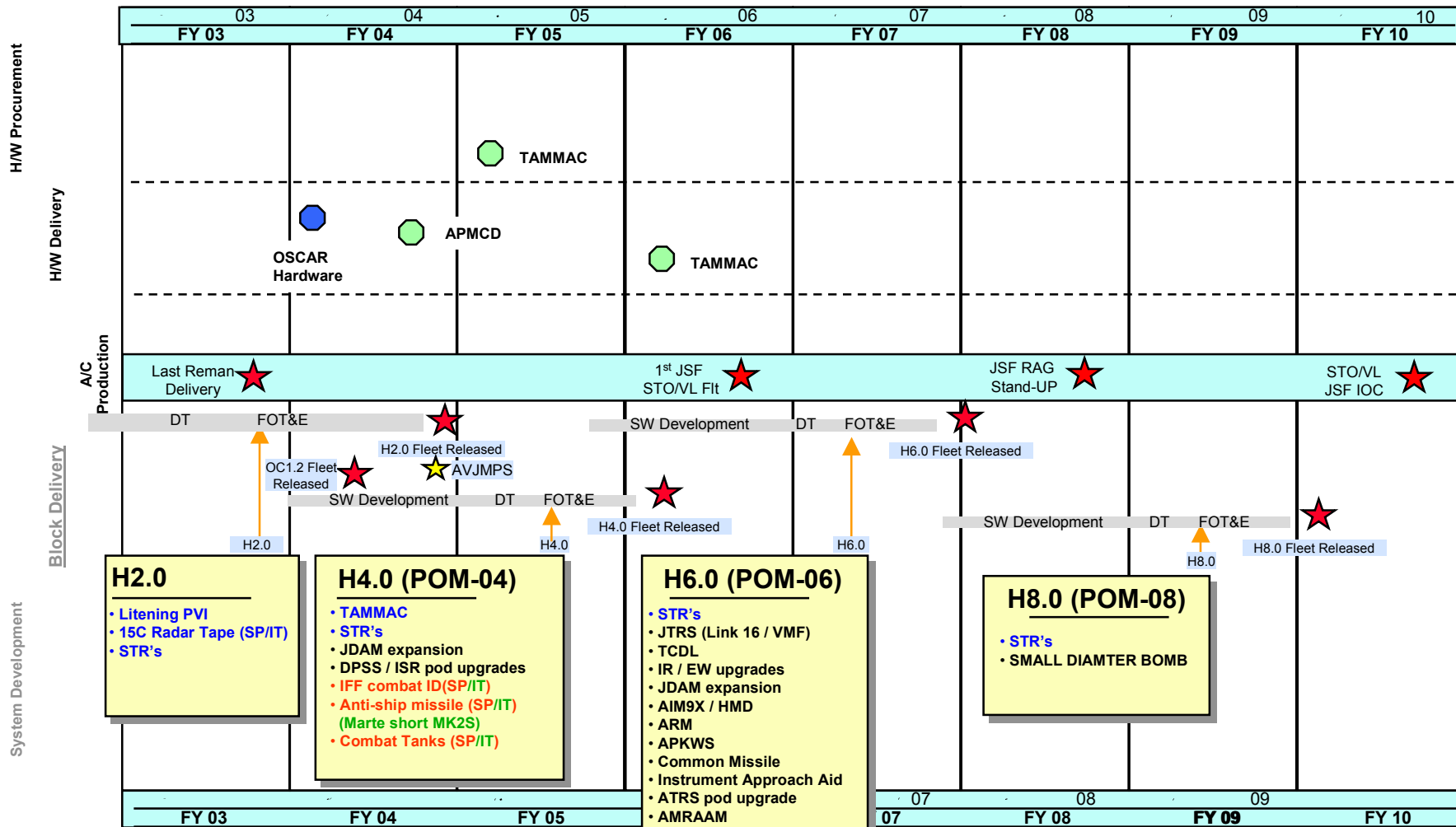
**Mission Needs and Operational
Requirements Will Continue to
Evolve Capabilities**





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AV-8B HARRIER APMSE

AV-8B Systems Development Roadmap



April 2003

AIR4.5 Brief.ppt
July 2003



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AV-8B HARRIER APMSE

Obsolescence Situation



- **The AV-8B Currently Has 2924 Active Electronic Devices in 540 Shop Replaceable Assemblies (SRA) Contained Within 79 Weapon Replaceable Assemblies (WRA) Being Tracked for Obsolescence**
- **Of the 2924 Active Devices, the Breakdown Is As Follows:**
 - 2290 Integrated Circuits
 - 406 Diodes
 - 228 Transistors
- **219 Active Devices Are Considered Obsolete**
 - 213 Integrated Circuits
 - 2 Diodes
 - 4 Transistors
- **378 Active Devices Are Considered Unprocurable**
 - 352 Integrated Circuits
 - 25 Diodes
 - 1 Transistor



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AV-8B HARRIER APMSE

Solutions



- **Most of the Obsolescence Issues Are Being Solved Internal to the Government (Defense Logistics Agency, Naval Inventory Control Point)**
- **The Concern Is the Solution for Obsolescence Not Solved Directly by the Government. The Government Must Rely on Industry for Our Solutions**
- **What Are We Looking for From Industry to Solve These Obsolescence Issues?**
 - **Emulation**
 - » Production of a Microcircuit Which Is:
 - FORM: Same Package/Part Number/Pinout
 - FIT: Matches Data Sheet/Actual Part Parameters and All Temperature and Electrical Parameters
 - FUNCTION: Satisfies Functional and Test Vector Sets
 - **System On A Chip Technology**
 - » A Single Device That Contains Processors, Memory, Busses, Controllers and Software
 - » Provides Extreme Reduction in Weight, Size and Power
 - » No Software Changes Required - Will Run Existing Operational Flight Programs

Bring It On

